

Claims (Amended)

1. A coated boxboard product, which has two or more fiber plies and outside plies consisting of bleached chemical pulp and middle plies of mechanical pulp and/or broke or recycled fiber, and which board has a surface density of 150-500 g/m², said board having a top side and a backing side, wherein the boxboard product is manufactured without using a Yankee cylinder, the production of said boxboard product involving prior to coating the use of one or more surface conditioning devices functioning as a precalender and comprising:
 - a fixed support element (14),
 - a flexible jacket (12) fitted around the fixed support element (14), such that a board web (80) travels between the jacket (12) and a counter-roll (22),
 - a load element (18, 20) provided in connection with the support element (14), such that the flexible jacket (12) is applied by the load element (18, 20) against the heatable counter-roll (22), the board web (80) present between the jacket (12) and the counter-roll (22) becoming calendered, and at least one end wall (24, 26) mounted at the end of the flexible jacket (12) in such a way that the flexible jacket is attached to the end wall (24, 26) and the jacket is rotated along with the end walls by means of a drive mechanism,
- 20 **characterized** in that the middle ply material consists of one or more materials in the following group:
 - groundwood (GW), pressure groundwood (PGW), chemithermo-mechanical pulp (CTMP), recycled pulp and broke;
- 25 that the coated product has surface properties on the top side of the board as follows:

PPS-s10 roughness (ISO 8791-4)	0,8-3,0 µm
Hunter gloss (ISO/DIS8254)	30-80%,

and that the product has a density (SCAN-P7:75) within the range of 500-1000 kg/m³.

2. A product as set forth in claim 1, **characterized** in that the top side is coated one or more times.
3. A product as set forth in claim 1 or 2, **characterized** in that the backing 5 side is uncoated.
4. A product as set forth in claim 1 or 2, **characterized** in that the backing side is coated at least once.
- 10 5. A product as set forth in any of the preceding claims, **characterized** in that the basis weight is within the range of 180-400 g/m².
6. A product as set forth in any of claims 1-5, **characterized** in that the basis weight is within the range of 180-350 g/m².
- 15 7. A product as set forth in any of claims 1-6, **characterized** in that the top side has a Bendtsen roughness (SCAN-P21:67) within the range of 0-500 ml/min.
- 20 8. A product as set forth in any of claims 1-6, **characterized** in that the top side has a Bendtsen roughness (SCAN-P21:67) within the range of 0-150 ml/min.
9. A product as set forth in any of claims 1-8, **characterized** in that the top 25 side has a PPS-s10 roughness (ISO 87911-4) within the range of 1,0-2,5 µm.
10. A product as set forth in any of claims 1-9, **characterized** in that the top side has a Hunter gloss (ISO/DIS 8254) within the range of 35-65%.
- 30 11. A product as set forth in any of the preceding claims, **characterized** in that it has a density (SCAN-P7:75) within the range of 600-850 kg/m³.

12. A product as set forth in any of claims 1-12, **characterized** in that the product calendering has also involved the use of a single- or multi-nip machine and/or soft calender.

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13. A product as set forth in any of claims 1-12, **characterized** in that its precalendering has involved the use of board surface wetting.

14. A product as set forth in any of claims 1-12, **characterized** in that its 10 precalendering has not involved the use of board surface wetting.

15. A method for making a coated boxboard product, said boxboard product having two or more fiber plies and having its outside plies consisting of bleached chemical pulp and middle plies of mechanical pulp and/or broke or 15 recycled fiber, and said board having a basis weight of 150-500 g/m², the boxboard product being manufactured without using a Yankee cylinder, in which method a web to be coated is prior to coating introduced into a surface conditioning device, comprising:
a fixed support element (14),
20 a flexible jacket (12) fitted around the fixed support element (14), such that a board web (80) travels between the jacket (12) and a counter-roll (22), a load element (18, 20) provided in connection with the support element (14), such that the flexible jacket (12) is applied by the load element (18, 20) against the heatable counter-roll (22), the board web (80) present between 25 the jacket (12) and the counter-roll (22) becoming calendered, and at least one end wall of the calendering device mounted on the end of the flexible jacket in such a way that the flexible jacket (12) is attached to the end wall (24, 26) and the jacket is rotated along with the end wall (24, 26) by means of a drive mechanism and the web is precalendered with said surface 30 conditioning device, **characterized** in that the middle ply material consists of one or more materials in the following group:

groundwood (GW), pressure groundwood (PGW), chemithermo-mechanical pulp (CTMP), recycled pulp and broke;

that the coated product has surface properties on the top side of the board as follows:

5 PPS-s10 roughness (ISO 8791-4) 0,8-3,0 μ m
Hunter gloss (ISO/DIS8254) 30-80%,

and that the product has a density (SCAN-P7:75) within the range of 500-1000 kg/m³.

10 16. A method as set forth in claim 15, **characterized** in that the precalendering involves the use of surface wetting.